almond soap proved to be much the most powerful of the three, and the results suggested that nitrobenzol, with which it was perfumed, might have some disinfectant power. Nitrobenzol is almost insoluble in water, but readily soluble in soap solution. Experiment showed that soap solution was made more powerfully disinfectant when ½ per cent. nitrobenzol was added.

Another soap, a "potash cream soap," containing 40 per cent. lysol, was tried against typhoid, bacterium coli, and staphylococci, and proved to be no more powerful than the other soaps excepting against the staphylococci; but here again it proved much weaker than a solution of lysol alone of the same lysol strength. Experiments with carbolic soap showed that carbolic acid also is weakened by the presence of the soap. Thus it appears that the addition of disinfectants to soap is not always advantageous, and that the old way of first washing the hands with soap and then afterward treating with disinfectants is the better one.

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**A New Process for Producing Sterile Drinking-water.**—STABSARZT DR. SCHUMBURG (*Deutsche medicinische Wochenschrift*, March 4, 1897) recommends a new process devised by himself for the quick sterilization of water. It is one which in five minutes kills nearly all water-bacteria and all pathogenic bacteria found in water. The agent used is bromine-water, which, in its turn, after five minutes, is made harmless by means of ammonia, and a clear, tasteless, sterile water is the result. The amount of bromine necessary is very small—only six centigrammes per litre. He uses a solution of twenty parts each of bromine and potassic bromide in one hundred of water, and of this solution 0.20 c.cm. proves to be enough to sterilize a litre of Spree water in five minutes. Very hard waters and grossly polluted river- and marsh-waters require larger amounts, on account of the lime-salts in the former and ammonia in the latter uniting with a part of the bromine before it has an opportunity to exert its disinfectant power. With such waters it is necessary to add the solution until a faint yellow color is produced and persists at least a half minute.

To do away with the bromine of 0.20 c.cm. of the solution an equal volume of 9 per cent. ammonia is enough; and thus, whatever the volume of the bromine solution used, a corresponding volume of 9 per cent. ammonia is necessary.

After treatment the water has practically no taste and is absolutely clear, while the resulting bromine compounds amount to so little as to merit no notice. The method was proved with all sorts of pathogenic organisms, and is recommended particularly for troops in quarters or bivouac, for sterilizing water in the tropics, especially on expeditions, and filling ships' water-tanks, for individual use during the prevalence of epidemics, for the quick preparation of aseptic water for the practising physician, etc. With a kilogramme of bromine (costing in Germany from five to six marks) one can sterilize sixteen thousand litres of water.

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**Formaldehyd as a Practical Disinfectant.**—The fact that the Tollens, Gambier, Trillat, and Krell lamps for generating formaldehyd are not capable of easily producing it in sufficiently large amount for practical use led PROF.

F. C. ROBINSON (*Journal of the American Public Health Association*, October, 1896) to experiment with the view to devise a lamp which might be free from their defects, and thus come into general use for disinfecting-purposes. His lamp consists of a disk of moderately thick asbestos-board perforated with small holes close together and platinized with a strong solution of platinic chloride, and a lamp-font, which is a shallow, cylindrical dish of such size that the disk will just cover the top. This font is partly filled with methyl alcohol The disk is wetted with the alcohol and removed from the dish, and then the alcohol is ignited. By the time the alcohol burns away the disk is sufficiently heated so that when placed over the lamp-font again it will continue hot and change the alcohol to the aldehyd most efficiently. The amount of alcohol converted in a given time depends on the size of the disk; with one of six inches diameter a litre can be converted in an hour.

By way of testing the efficacy of the agent as a disinfectant, Robinson experimented with typhoid- and diphtheria-cultures in a room of three thousand cubic feet capacity, with three large windows with loose sashes. One litre of methyl alcohol was used and the room was closed for four hours. This was found to be insufficient for complete sterilization of infectious material which was covered or concealed to any great extent. But with one and a half litres and three and a half hours' exposure complete sterilization was effected. That the substance has remarkable power of penetration was proved by the fact that all parts of clothing, including seams and inside of pockets, were sterilized in all parts of the room, and typhoid-cultures were destroyed, although covered with a layer of sand a half-inch deep. When two litres of the alcohol were used and exposure continued seven hours, cultures of typhoid and diphtheria placed beneath bedclothes, under the pillows, within the mattress, and even rolled up in a mattress and the whole tied into as compact a bundle as possible, were found to be completely sterilized. From his observations Robinson is of the opinion that at least a quart of alcohol should be used in disinfecting an ordinary living-room; this amount will yield about thirty-six volumes of the aldehyd gas, which, as such, or in solution, is practically without injurious effect on metals, wood, cloth, and most colors.

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All communications should be addressed to

DR. EDWARD P. DAVIS, 250 South 21st Street, Philadelphia, U. S. A.

Or

DR. HECTOR MACKENZIE. 5y Welbeck St., Cavendish Sq., London, W., Eng.